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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,353	07/26/2006	Kunihiko Horikawa	8048-1152	5720

466 7590 05/27/2010

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EXAMINER	
CHU, KIM KWOK	
ART UNIT	PAPER NUMBER
2627	

NOTIFICATION DATE	DELIVERY MODE
05/27/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

Office Action Summary	Application No.	Applicant(s)	
	10/574,353	HORIKAWA ET AL.	
	Examiner	Art Unit	
	Kim-Kwok CHU	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

35 U.S.C. 101 Rejection

1. 35 U.S.C. 101 reads as follows:

> *Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.*

2. Claims 20-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In each of Claims 20-23, the claim is drawn to a computer readable medium as recited in the preamble and as such is non-statutory subject matter.

The USPTO recognizes that applicants may have claims directed to computer readable media that cover signals per se, which the USPTO must reject under 35 U.S.C. § 101 as covering both non-statutory subject matter and statutory subject matter. In an effort to assist the patent community in overcoming a rejection or potential rejection under 35 U.S.C. § 101 in this situation, the USPTO suggests the following approach. A claim drawn to such a computer readable medium that covers both transitory and non-transitory embodiments may be amended to narrow the claim to cover only statutory embodiments to avoid a rejection under 35 U.S.C. § 101 by adding the limitation "non-transitory" to the claim. Cf. Animals - Patentability, 1077 Off. Gaz. Pat. Office 24 (April 21, 1987) (suggesting that applicants add the limitation "non-human" to a claim covering a multi-

cellular organism to avoid a rejection under 35 U.S.C. § 101). Such an amendment would typically not raise the issue of new matter, even when the specification is silent because the broadest reasonable interpretation relies on the ordinary and customary meaning that includes signals per se. The limited situations in which such an amendment could raise issues of new matter occur, for example, when the specification does not support a non-transitory embodiment because a signal per se is the only viable embodiment such that the amended claim is impermissibly broadened beyond the supporting disclosure. See, e.g., Gentry Gallery, Inc. v. Berkline Corp., 134 F.3d 1473 (Fed. Cir. 1998).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> *The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.*

4. Claims 5-13, 16, 17 and 20-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Regarding Claim 5, the amended "correcting device" is not defined or taught in the specification.

Simi alary, in each of Claims 7, 16, 17, 20-23, the amended "correcting device" is not defined or taught in the specification.

The claims not specifically mentioned above are rejected because these claims are dependent on the rejected base claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless --*
> *(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

6. Claims 5-11 and 14-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Miyata (U.S. Patent 6,052,347).

7. Miyata teaches an information recording apparatus having all of the elements and means as recited in claims 5, 6, 14, 16, 18, 20 and 22. For example, Miyata teaches the following:

Regarding Claim 5, the information recording apparatus comprising: a recording device 31 (Fig. 11) for recording record information by irradiating laser light onto an information recording medium 1, the information recording medium comprised of i) a recording area 13 (Fig. 6; column 6, lines 13 and 14) to record therein record information by irradiating laser light thereto and ii) a recording control area 11, 15 (Fig. 6; test recording areas) where control information P0 (Fig. 5) for correction-controlling a laser power in accordance with a recording position R1, R2, (Fig. 5) in the recording area 13

(Fig. 6) is recorded; a correcting device 47 (Figs. 12 and 14) for correcting the control information P0 (Fig. 5) recorded in the recording control area 11, 15 of the information recording medium 1, on the basis of a result of running OPC 45 (Optimum Power Calibration) which corrects the laser power according to a power of a reflected laser light on a recording surface of the information recording medium 1 while irradiating the laser light for the recording of the record information (corrected laser light based on optimum power calibration 45 is calibrated; column 9, lines 22-34) and an optimizing device 45 (Fig. 12) for optimizing the laser power (column 8, lines 56-61), on the basis of the control information (P0) corrected by the correcting device (repeating optimizing the laser power in each zone).

Regarding Claim 6, the optimizing device 39 roughly estimates the control information (OPC) at a recording position (radius) for which the corresponding control information does not exist, on the basis of the control information recorded in the recording control area (Fig. 5).

8. Method claim 14 is drawn to the method of using the corresponding apparatus claimed in claim 5. Therefore method claim 14 corresponds to apparatus claim 5 and is rejected for the same reason of anticipation as used above.

9. Claim 16 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 16 however also recites the following limitation which are also taught in the prior art of Miyata:

Regarding Claim 16, a reproducing device 35 (read/write head) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

10. Claim 18 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 18 however also recites the following limitation which are also taught in the prior art of Miyata:

Regarding Claim 18, a reproducing process for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

11. Claim 20 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 20 however also recites the following limitation which are also taught in the prior art of Miyata:

Regarding Claim 20, a computer program for record control to control a computer provided for the information recording apparatus to make the computer function as at least one portion of said recording device and the optimizing device (column 9; lines 34-40; software coding).

12. Claim 22 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 22 however also recites the following limitation which are also taught in the prior art of Miyata:

Regarding Claim 22, a computer program for record/reproducing control to control a computer provided for the information recording/reproducing apparatus, the computer program making the computer function as at least one portion of the information recording apparatus and the reproducing device(column 9; lines 34-40; software coding).

13. Miyata teaches an information recording medium having all of the elements and means as recited in claims 7-11, 15, 17, 19, 21 and 23. For example, Miyata teaches the following:

Regarding Claim 7, an information recording apparatus comprising: a first recording device 35 (Fig. 11; read/write head) for irradiating laser light onto an information recording medium 1 and for recording record information (data) onto the information recording medium 1 (Fig. 6; area 13 is the data area); a control information generating device 39 (Fig. 12; column 8, lines 40-51) for obtaining an optimum laser power according to a recording position of the information recording medium 1 and for generating control information (OPC recorded in 11 and 15) which indicates an association between information which represents the recording position and information which represents the optimum laser power (Figs. 12 and 13); a correcting device 47 (Fig. 12) for correcting the control information generated by the control information generating device 39, on the basis of a result of running OPC (Optimum Power Calibration) (Fig. 14; recording power is linearly corrected/calculated according to data zones/radius) which corrects the laser power according to a power of a reflected laser light on a recording surface of the information recording medium 1 while irradiating the laser light for the recording of

the record information (corrected laser light based on optimum power calibration 45 is calibrated; column 9, lines 22-34); a second recording device 35 (Fig. 11; read/write head) for recording the control information generated by the control information generating device 39 and the control information corrected by the correcting device 47 (Figs. 12 and 14); and a controlling device 43 for controlling a laser power of the laser light irradiated onto the information recording medium 1, on the basis of the control information (OPC information) recorded by the second recording device (Figs. 12 and 13; repeating optimizing the laser power in each zone).

Regarding Claim 8, the second recording device 35 records the control information (OPC) generated by the control information generating device 39, onto the information recording medium 1 (Fig. 6).

Regarding Claim 9, the control information generating device 39 generates the control information (OPC), on the basis of a calibration value of a laser power obtained by performing running OPC (Optimum Recording Calibration) (Fig. 13).

Regarding Claim 10, the control information generating device 39 generates the control information (OPC) corresponding to each predetermined area (radius/zone) of the information recording medium 1 (Figs. 5 and 7).

Regarding Claim 11, the control information generating device 39 generates the control information (OPC) corresponding to a recording linear velocity of the information recording medium 1 (Fig. 10).

14. Method claim 15 is drawn to the method of using the corresponding apparatus claimed in claim 7. Therefore method Claim 15 corresponds to apparatus claim 7 and is rejected for the same reason of anticipation as used above.

15. Claim 17 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 17 however also recites the following limitation which is also taught in the prior art of Miyata:

Regarding Claim 17, a reproducing device 35 (Figs. 11) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

16. Method claim 19 is drawn to the method of using the corresponding apparatus claimed in claim 7. Therefore method claim 19 corresponds to apparatus claim 7 and is rejected for the same reason of anticipation as used above. Claim 19 however also recites the following limitation which is also taught in the prior art of Miyata:

Regarding Claim 19, a reproducing process (read) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

17. Claim 21 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 21 however also recites the following limitation which is also taught in the prior art of Miyata:
Regarding Claim 21, a computer program for record control to control a computer provided for the information recording apparatus, the computer program making the computer function as at least one portion of the recording device, the control information generating device, the second recording device, and the controlling device (column 9, lines 34-40).

18. Claim 23 has limitations similar to those treated in the above rejection, and is met by the reference as discussed above. Claim 23 however also recites the following limitation which is also taught in the prior art of Miyata:

Regarding Claim 23, a computer program for record control to control a computer provided for the information recording apparatus, the computer program making the computer function as at least one portion of the recording device, the control information generating device, the second recording device, and the controlling device (column 9, lines 34-40) and a reproducing device 35 (Figs. 11) for reproducing the record information recorded on the information recording medium 1 (Figs. 11 and 12).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

20. Claims 12 and 13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Miyata (U.S. Patent 6,052,347) in view of Ito et al. (U.S. Publication US2003/0137909).

Miyata teaches optimum power control for recording/reproducing a recording medium very similar to that of the present invention. However, Miyata does not teach the following:

with respect to Claim 12, the information recording medium comprises a plurality of recording layers, and the controlling device controls the laser power irradiated to another recording layer, on the basis of the control information obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation, is changed from the one recording layer to the another recording layer out of the plurality of recording layers.

with respect to Claim 13, the information recording medium comprises a plurality of recording layers, and said control information generating device generates the control information in another recording layer, on the basis of the control information obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation, is changed from the one recording layer to the another recording layer out of the plurality of recording layers.

Ito teaches the following:

an information recording medium 50 (Fig. 6) comprises a plurality of recording layers 51 and 52, and the controlling device 514 (Fig. 18) controls the laser power irradiated to another recording layer, on the basis of the control information (OPC stored in medium region 11) obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation (Fig. 18), is changed from the one recording layer to the another recording layer out of the plurality of recording layers (Fig. 6; each layer has its OPC information 11).

an information recording medium 50 (Fig. 6) comprises a plurality of recording layers 51 and 52, and the control information generating device generates the control information

(OPC stored in medium region 11) in another recording layer, on the basis of the control information obtained in one recording layer, in a case in which a target, to which the recording device performs recording operation (Fig. 18), is changed from the one recording layer to the another recording layer out of the plurality of recording layers (Fig. 6; each layer has its OPC information 11).

Although Miyata does not teach that the optimum power control is used on a multi-layer recording medium, for increasing the storage capacity, it would have been obvious to one of ordinary skill in the art to use a two layers recording medium such as Ito's as Miyata's recording medium, and furthermore, it would have been obvious to one of ordinary skill in the art to store OPC information in a recording medium such as Miyata's in each recording layer of Ito's two layered recording medium, because each recording layer has its OPC information corresponding to its information position/radius.

Response to Remarks

21. Applicant's Remarks filed on February 16, 2010 have been fully considered.

With respect to the 35 U.S.C. 112, first paragraph rejection, Applicant explains that the subject matter "correcting device" is defined because it corrects a calibration curve (page 21 of the Remarks, last two lines to page 22, first two lines) as described in the specification. Accordingly, each of Applicant's Claims, for example, Claim 5, does not claim a calibration curve and therefore the "correcting device" in the Claims can not correspond to the description in the specification.

With respect to the prior art rejection, Applicant points out that the prior art of Miyata does not teach "correcting a control information for controlling the laser power on the basis of a running OPC (page 24 of the Remarks, second paragraph). Accordingly, the prior art of Miyata teaches a running (operating) OPC during a laser calibration process (Figs. 11 and 12). In addition, the prior art of Miyata teaches a laser power correcting operation in the form of repeating the process of OPC in a plurality of zones (Fig. 5). In other words, optimum laser power set in zone 1 is updated (corrected) in zone 2, and then this laser power setting parameter written in 11 and 15 will be

repeated (corrected) in other zones through out the laser testing operation for the whole recording medium.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on (571) 272-7579.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

/Kim-Kwok CHU/
Examiner AU2627
May 21, 2010
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